Adaptive Neuro-Fuzzy Inference System for Breath Phase Detection and Breath Cycle Segmentation

Rajkumar Palaniappan , Kenneth Sundaraj , Sebastian Sundaraj

PII: S0169-2607(17)30032-9
DOI: 10.1016/j.cmpb.2017.04.013
Reference: COMM 4411

To appear in: *Computer Methods and Programs in Biomedicine*

Received date: 11 January 2017
Revised date: 6 March 2017
Accepted date: 12 April 2017

Please cite this article as: Rajkumar Palaniappan , Kenneth Sundaraj , Sebastian Sundaraj , Adaptive Neuro-Fuzzy Inference System for Breath Phase Detection and Breath Cycle Segmentation, *Computer Methods and Programs in Biomedicine* (2017), doi: 10.1016/j.cmpb.2017.04.013

Highlights

- ANFIS based breath cycle detection and segmentation algorithm was implemented.
- ANFIS uses power spectral density from breath sounds to detect the breath phases.
- The ANFIS model was evaluated using root mean square error and correlation coefficient.
- A correlation strength of r = 0.9925, and the RMSE = 0.0069 was obtained.
- The proposed methods was validated using RALE database.